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EXAMINER	
LEUNG, CHRISTINA Y	
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/332,046	Applicant(s) GERSTEL ET AL.
	Examiner Christina Y. Leung	Art Unit 2633

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 20 September 2004.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1,3-11,30-33,37 and 39-45 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1,3-11,30-33,37 and 39-45 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Introductory Comments

1. The previous Final Office Action, mailed 08 February 2005, is **withdrawn**. This non-final Office Action is in response to the claims and arguments previously submitted in the amendment/response filed 20 September 2004 (i.e., the same claims and arguments considered in the 08 February 2005 Office Action). This Office Action supersedes the Office Action of 08 February 2005.

2. The indicated allowability of claims 1, 3-11, 30-32, 34, 37, 39-44 (which had been noted in the Final Office Action of 08 February 2005, now withdrawn) is withdrawn in view of the newly discovered reference(s) to Purcell et al. (US 5,289,474 A). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 3, 4, 8, 30, 37-40, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnard et al. (US 6,115,157 A) in view of Purcell et al. (US 5,289,474 A).

Regarding claim 1, Barnard et al. disclose a wavelength division multiplexed optical system (Figure 3), comprising:

a first optical node 11 including a transponder T1 (shown in Figure 2B) having a test signal generator to generate a test signal, the test signal generator being adapted to generate the

test signal by outputting a valid frame as the test signal (a generator is not explicitly shown in the figures, but Barnard et al. specifically disclose generating a frame as a test signal at the transmitter by some means; in other words, they disclose valid frames generated at a first node that may be later monitored; see column 5, lines 7-16 and lines 29-33);

a second optical node 17 including a transponder R1 (shown in Figure 2A) having a monitoring circuit (error detector 4) to monitor a received test signal (column 4, lines 62-67; column 5, lines 1-6); and

a light path through which at least optical communications normally are exchanged between the first and second optical nodes (Figure 3).

Although Figure 3 shows a unidirectional system in particular, Barnard et al. disclose that the system may be bidirectional (column 6, lines 9-14), wherein transmitters and receivers would be provided at both nodes.

Barnard et al. further disclose that the light path is tested by the monitoring circuit monitoring a bit error rate of the test signal in response to receiving the test signal from the first optical node through the light path (column 4, lines 66-67; column 5, lines 1-20).

Barnard et al. disclose generating a test signal by outputting a valid frame but do not specifically disclose generating a test signal by selectively outputting an error frame or a valid frame as the test signal.

However, Purcell et al. teach a system related to the one disclosed by Barnard et al. including a test signal generator for generating a frame as a test signal in a communications system (Figure 1; column 2, lines 64-68; column 3, lines 1-18). Purcell et al. further teach selectively outputting a error/invalid frame or a valid frame as the test signal (column 2, lines 23-

40; column 3, lines 6-11; column 9, lines 1-14; column 15, lines 45-56). Regarding claim 8 in particular, Purcell et al. teach that an error/invalid frame includes predetermined errors (column 2, lines 23-40; column 9, lines 1-14)

Regarding claims 1 and 8, it would have been obvious to a person of ordinary skill in the art to selectively generate error frames or valid frames (instead of only generating valid frames) as the test signal as taught by Purcell et al. in the optical system disclosed by Barnard et al. in order to advantageously use the test signal to test the system under a wider variety of conditions, including specific error conditions (Purcell et al., column 2, lines 23-40).

Regarding claims 3 and 4, Barnard et al. disclose that the test signal may be a valid client signal such as a valid SONET frame (column 5, lines 7-16).

Regarding claim 30, Barnard et al. disclose that that the transponder of the first optical node also has another monitoring circuit to monitor a test signal received thereby, the transponder of the second optical node also has another test signal generator to generate another test signal, and the monitoring circuit of the first optical node tests the light path by monitoring a quality of the tests signal generated in the second optical node and provided to the monitoring circuit of the first optical node through the light path. Again, although Figure 3 shows a unidirectional system in particular, Barnard et al. disclose that the system may be bidirectional (column 6, lines 9-14), wherein transmitters and monitoring elements would be provided at both nodes.

Regarding claim 37, as similarly discussed above with regard to claim 1, Barnard et al. disclose a method for operating a wavelength division multiplexed optical communication system (Figure 3), comprising:

generating a test signal by outputting a valid frame;

transmitting the test signal generated in the generating from a first optical node 11 to a second optical node 17 by way of a light path through which at least optical communications normally are exchanged between the first and second optical nodes (column 5, lines 7-16 and lines 29-33); and

determining if there is a fault condition in the light path based on a bit error rate of the test signal received at the second optical node 17 (column 5, lines 49-67; column 6, lines 1-5 and lines 15-28).

Again, Barnard et al. disclose generating a test signal by outputting a valid frame but do not specifically disclose generating a test signal by selectively outputting an error frame or a valid frame as the test signal.

However, Purcell et al. teach a system related to the one disclosed by Barnard et al. including a test signal generator for generating a frame as a test signal in a communications system (Figure 1; column 2, lines 64-68; column 3, lines 1-18). Purcell et al. further teach selectively outputting a error/invalid frame or a valid frame as the test signal (column 2, lines 23-40; column 3, lines 6-11; column 9, lines 1-14; column 15, lines 45-56). Regarding claim 44 in particular, Purcell et al. teach that an error/invalid frame includes predetermined errors (column 2, lines 23-40; column 9, lines 1-14).

Regarding claims 37 and 44, it would have been obvious to a person of ordinary skill in the art to selectively generate error frames or valid frames (instead of only generating valid frames) as the test signal as taught by Purcell et al. in the optical system disclosed by Barnard et

al. in order to advantageously use the test signal to test the system under a wider variety of conditions, including specific error conditions (Purcell et al., column 2, lines 23-40).

Regarding claims 39, and 40, Barnard et al. disclose that the test signal may be a valid client signal such as a valid SONET frame (column 5, lines 7-16).

5. Claims 5, 6, 41, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnard et al. in view of Purcell et all. as applied to claims 1 and 37 above, and further in view of Chang et al..

Regarding claims 5, 6, 41, and 42, Barnard et al. in view of Purcell et al. disclose a system and method as discussed above with regard to claim 1 and 37 including sending and monitoring a valid frame signal, but they do not specifically disclose that the valid frame may be a valid maintenance signal. However, Barnard et al. also disclose generally transmitting SONET signals, and signals corresponding to the SONET protocol are well known in the art.

Chang et al. teach a system related to the one described by Barnard et al. in view of Purcell eta l. including elements for sending a test signal and monitoring the bit error rate of a test signal at a network node (Figures 2A and 2B). Chang et al. further suggest sending a test signal that is a valid maintenance signal such as a SONET alarm indication signal (also known as "AIS"; column 5, lines 32-35). It would have been obvious to a person of ordinary skill in the art to provide an alarm indication signal as suggested by Chang et al. as the test signal in the system described by Barnard et al. in view of Purcell et al. in order to test and observe the response of the system when alarm signals such as "AIS" are sent.

6. Claims 7, 9, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnard et al. in view of Purcell et al. as applied to claims 1 and 37 above, and further in view of Fee (US 6,108,113 A) and Czarnocha et al. (US 6,504,630 B1).

Regarding claims 7, 9, and 43, Barnard et al. in view of Purcell et al. describe a system and method as discussed above with regard to claims 1 and 37 including two optical nodes, but they do not specifically disclose client equipment. However, it is well known in the art that the nodes in a network such as described by Barnard et al. in view of Purcell et al. may be connected to client equipment and other interfaces for users, such as the computers and equipment taught in particular by Fee (see Figure 1). It would have been obvious to a person of ordinary skill in the art to include client equipment as taught by Fee in the system described by Barnard et al. in view of Purcell in order to provide well known interfaces for users in the network so that those users may communicate with each other.

Further regarding claims 7, 9, and 43, Barnard et al. in view of Purcell et al. and Fee do not specifically suggest that the light path may be tested prior to connecting client equipment to the first and second optical nodes or that the system specifically includes a communications blocker. However, it is well known in the art that a user of a system including supervisory/monitoring signals such as described by Barnard et al. in view of Purcell et al. and Fee may test the system before transmitting the main data signals (i.e., before the client equipment is connected or while the client equipment is blocked from communicating), as Czarnocha et al. also specifically teach (column 6, lines 59-67; column 7, lines 1-34).

It would have been obvious to a person of ordinary skill in the art to test the light path prior to connecting client equipment to the first and second optical nodes (or alternatively, while

blocking communications from the client equipment) as taught by Czarnocha et al in the system and method described by Barnard et al. in view of Purcell et al and Fee simply in order for the user to verify that the system is functional before proceeding with actual data communications (and so that none of the main data signals are lost).

7. Claims 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnard et al. in view of Purcell et al. as applied to claims 1 and 30 above, and further in view of Gewin et al. (US 5,060,226 A).

Regarding claims 31 and 32, Barnard et al. in view of Purcell et al. describe a system as discussed above with regard to claims 1 and 30 including two optical nodes but they do not specifically disclose a loopback mechanism.

However, Gewin et al. teach a system related to the one described by Barnard et al. in view of Purcell et al. including nodes that transmit and receive data and wherein a node may test a received test signal by monitoring the bit error rate of the signal (column 3, lines 61-64).

Gewin et al. further disclose that the path includes at least one loopback mechanism included in at least one other node (shown in Figure 3 as located within remote node 44a) which directs the test signal generated by the test signal generator of one of the first and second nodes (i.e., one of master nodes 10A or 10B) to the monitoring circuit of a same one of the first and second nodes, for monitoring therein (column 9, lines 2-20).

Regarding claims 31 and 32, it would have been obvious to a person of ordinary skill in the art to include a loopback mechanism as taught by Gewin et al. in the system described by Barnard et al. in view of Purcell et al. so that the transmitting and monitoring elements located at both ends of the communications path as disclosed by Barnard et al. may be used to access and

test part of the path even when a fault on the path disables the communication between the first and second nodes.

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. (US 5,619,489 A) in view of Purcell et al.

Regarding claim 10, Chang et al. disclose a system (Figures 2A and 2B) comprising:

a transponder having at least a transmitter (such as STS-1 transmitter 244) and a receiver (such as STS-1 receiver 240), a test signal generator 236 to generate a test signal, the test signal generator being adapted to output a valid frame as the test signal (column 3, lines 61-65; column 4, lines 25-33), and a monitoring circuit 222 connected to the receiver to monitor a bit error rate of a received test signal at an input of the receiver (column 5, lines 6-7), wherein the transmitter transmits signals applied to an input of the transmitter.

Chang et al. further disclose a switch, operable either to couple a signal output by the receiver to the input of the transmitter, or to couple the test signal to the input of the transmitter. Although a switch element is not explicitly shown in Figures 2A and 2B, Chang et al. disclose that the system configuration may be switched (using microprocessor 200 and based on user input) to either send a test signal from the test signal generator to the transmitter (column 5, lines 29-31) or loop the received signal back through the transmitter (column 5, lines 17-19).

Chang et al. disclose generating a test signal by outputting a valid frame but do not specifically disclose generating a test signal by selectively outputting an error frame or a valid frame as the test signal.

However, Purcell et al. teach a system related to the one disclosed by Chang et al. including a test signal generator for generating a frame as a test signal in a communications

system (Figure 1; column 2, lines 64-68; column 3, lines 1-18). Purcell et al. further teach selectively outputting a error/invalid frame or a valid frame as the test signal (column 2, lines 23-40; column 3, lines 6-11; column 9, lines 1-14; column 15, lines 45-56).

Regarding claim 10, it would have been obvious to a person of ordinary skill in the art to selectively generate error frames or valid frames (instead of only generating valid frames) as the test signal as taught by Purcell et al. in the optical system disclosed by Chang et al. in order to advantageously use the test signal to test the system under a wider variety of conditions, including specific error conditions (Purcell et al., column 2, lines 23-40).

Chang et al. do not specifically disclose that the system may be located at an optical line terminal, but they disclose that the system may be used to test operations at various locations in networks, including optical networks (column 1, lines 10-34). It is well known in the art that optical networks may generally comprise various nodes and line terminals for providing and receiving communications signals. It would have been obvious to a person of ordinary skill in the art to specifically use the system described by Chang et al. in view of Purcell at an optical line terminal simply so that the condition of the network may be examined at such a location. Examiner also notes that claim 10 currently only recites an "optical line terminal" in the preamble of the claim and the body of the claim does not refer to an optical line terminal in any way.

9. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barnard et al. in view of Purcell et al. and Fee.

Regarding claim 11, as similarly disclosed above with regard to claim 1, Barnard et al. disclose a wavelength division multiplexed optical system (Figure 3), comprising:

an optical node 11 including a transponder (including element T1 shown in Figure 2B) having a test signal generator to generate a test signal, the test signal generator being adapted to generate the test signal by outputting a valid frame as the test signal (a generator is not explicitly shown in the figures, but Barnard et al. specifically disclose generating a frame as a test signal at the transmitter by some means; in other words, they disclose valid frames generated at a first node that may be later monitored; see column 5, lines 7-16 and lines 29-33);

equipment (element 17) including a monitoring circuit to monitor a received test signal (shown in Figure 2A); and

an optical path through which at least optical communications normally are exchanged between the optical node and the equipment (Figure 3),

wherein the optical path is tested by the monitoring circuit monitoring a bit error rate of the test signal generated by the test signal generator of the optical node and received by the monitoring circuit through the optical path (column 4, lines 66-67; column 5, lines 1-20).

Again, Barnard et al. disclose generating a test signal by outputting a valid frame but do not specifically disclose generating a test signal by selectively outputting an error frame or a valid frame as the test signal.

However, Purcell et al. teach a system related to the one disclosed by Barnard et al. including a test signal generator for generating a frame as a test signal in a communications system (Figure 1; column 2, lines 64-68; column 3, lines 1-18). Purcell et al. further teach selectively outputting a error/invalid frame or a valid frame as the test signal (column 2, lines 23-40; column 3, lines 6-11; column 9, lines 1-14; column 15, lines 45-56).

Regarding claim 11, it would have been obvious to a person of ordinary skill in the art to selectively generate error frames or valid frames (instead of only generating valid frames) as the test signal as taught by Purcell et al. in the optical system disclosed by Barnard et al. in order to advantageously use the test signal to test the system under a wider variety of conditions, including specific error conditions (Purcell et al., column 2, lines 23-40).

Further regarding claim 11, Barnard et al. disclose monitoring a test signal at a second location connected to the optical node 11, but they do not specifically do not specifically disclose that the second location may be client equipment. However, it is well known in the art that the nodes in a network such as described by Barnard et al. in view of Purcell et al. may be connected to client equipment and other interfaces for users, such as the computers and equipment taught in particular by Fee as part of a related optical network system (see Figure 1). It would have been obvious to a person of ordinary skill in the art to include client equipment as taught by Fee in the system described by Barnard et al. in view of Purcell et al. in order to provide well known interfaces for users in the network so that those users may communicate with each other.

10. Claims 33 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terahara et al. (US 6,452,701 B1) in view of Fee.

Regarding claim 33, Terahara et al. disclose in a wavelength division multiplexed optical communication system having an optical path through which optical communications normally are communicated (Figure 9C), at least one optical node ("hub station A") comprising:

a transmitting portion (such as shown in Figure 11A), arranged to transmit a generated test signal through the optical path, the test signal being an optical signal (column 15, lines 30-35); and

a receiving portion (such as shown in Figure 14), arranged to receive the test signal from the transmitting portion through the optical path, and to monitor a quality of the test signal received through the optical path (column 16, lines 15-25).

Terahara et al. further disclose that the optical path includes at least one loopback mechanism which directs the generated test signal transmitted by the transmitting portion towards the receiving portion, without requiring a conversion of the test signal to or from a non-optical form. Figure 11A, for example, shows an optical loopback mechanism that may be included in the nodes shown in Figure 9C. Hub station A in Figure 9C may generate a test signal from signal transmitter 28 when the switch 27 in the station is open, while hub station B may optically loop back the signal when switch 27 in that station is closed (column 13, lines 64-67; column 14, lines 1-10; column 15, lines 20-38).

Terahara et al. further disclose that the optical path also includes at least one other optical node (including hub station B), and the loopback mechanism is included in the at least one other optical node (Figure 9C shows how the signal may loop back to hub station A).

Terahara et al. further disclose that the at least one other optical node includes an add-drop multiplexer. Figure 9C shows an add drop multiplexer (not explicitly labeled, but shown in dotted lines and corresponding to elements 10 in Figure 9A and shown in detail in Figure 9B) that may be understood as part of a node that also includes hub station B.

Terahara et al. generally disclose that the receiving portion monitors the test signal received, but Terahara et al. do not specifically disclose monitoring a bit error rate of the test signal.

However, measuring a bit error rate of a signal is well known in the art as way to determine whether a communication path is functioning properly. In particular, Fee teaches an optical communications system, related to the one disclosed by Terahara et al., including monitoring a quality of a test signal to determine the condition of an optical path (Fee, Figure 9, for example, shows the transmission and reception of a test signal). Fee further teaches that a bit error rate of such a test signal may be monitored (column 14, lines 1-15).

It would have been obvious to a person of ordinary skill in the art to monitor a bit error rate, as suggested by Fee, the test signal in the system disclosed by Terahara et al. in order to obtain further information regarding the condition of the optical path (see Fee, column 14, lines 13-15, for example). One in the art would have been particularly motivated to specifically measure a bit error rate of a test signal in order to obtain more information about the condition of the system beyond simply determining failures based on whether a test signal is merely present or not. Measuring a bit error rate of a test signal would allow users to more fully determine if signals are being transmitted properly over the optical path and thus better detect subtler failures of the optical system (wherein, for example, a signal may be present but with an unacceptable number of errors).

Regarding claim 45, as similarly discussed above with regard to claim 33, Terahara et al. disclose a method for operating a wavelength division multiplexed optical communication system (Figure 9C) having at least one optical node ("Hub station A") coupled in at least one optical path through which optical communications normally are communicated, the method comprising:

transmitting a generated test signal from the at least one optical node through the at least one optical path, the test signal being an optical signal (column 15, lines 30-35);

looping back the test signal in at least one optical node towards the at least one optical node through the at least one optical path, without requiring a conversion of the test signal to or from a non-optical form outside of the at least one optical node (Figure 9C; column 13, lines 64-67; column 14, lines 1-10);

receiving back at the at least one optical node the tests signal transmitted from the at least one optical node through the at least one optical path (column 16, lines 15-25); and

monitoring a quality of the test signal received at the at least one optical node,

Terahara et al. further disclose that the optical path also includes at least one other optical node including a loopback mechanism (such as hub station B), and the looping back is performed in the at least one other optical node.

Terahara et al. further disclose that the at least one other optical node includes an add-drop multiplexer. Figure 9C shows an add drop multiplexer (not explicitly labeled, but shown in dotted lines and corresponding to elements 10 in Figure 9A and shown in detail in Figure 9B) that may be understood as part of a node that also includes hub station B.

Again, Terahara et al. generally disclose that the receiving portion monitors the test signal received, but Terahara et al. do not specifically disclose monitoring a bit error rate of the test signal.

However, measuring a bit error rate of a signal is well known in the art as way to determine whether a communication path is functioning properly. In particular, Fee teaches an optical communications system, related to the one disclosed by Terahara et al., including

monitoring a quality of a test signal to determine the condition of an optical path (Fee, Figure 9, for example, shows the transmission and reception of a test signal). Fee further teaches that a bit error rate of such a test signal may be monitored (column 14, lines 1-15).

It would have been obvious to a person of ordinary skill in the art to monitor a bit error rate, as suggested by Fee, the test signal in the system disclosed by Terahara et al. in order to obtain further information regarding the condition of the optical path (see Fee, column 14, lines 13-15, for example). One in the art would have been particularly motivated to specifically measure a bit error rate of a test signal in order to obtain more information about the condition of the system beyond simply determining failures based on whether a test signal is merely present or not. Measuring a bit error rate of a test signal would allow users to more fully determine if signals are being transmitted properly over the optical path and thus better detect subtler failures of the optical system (wherein, for example, a signal may be present but with an unacceptable number of errors).

Response to Arguments

11. Applicants' arguments with respect to claims 1, 3-11, 30-32, 34, 37, and 39-44 (particularly with respect to the limitation of "selectively outputting an error frame or a valid frame") have been considered but are moot in view of the new ground(s) of rejection.

12. Applicants' arguments filed 20 September 2004 with respect to claims 33 and 45 in particular have been fully considered but they are not persuasive.

Regarding claims 33 and 45, Examiner respectfully disagrees with Applicants' assertion that Terahara et al. do not disclose nodes including add/drop multiplexers. On the contrary, Examiner respectfully notes that Terahara et al. disclose nodes that include an add drop

multiplexer and a hub station as shown in Figures 9A-C. Figure 5 of Terahara et al. also generally illustrates how an add/drop multiplexer corresponds to a station in order to allow a particular station to transmit and receive signals to and from the network.

Also, regarding claim 10, in response to Applicants' argument on page 10 of their response that the Chang et al. fail to show certain features of Applicants' invention, it is noted that the features upon which Applicants rely (i.e., transmitting or receiving optical signals) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Also, Examiner respectfully notes that Chang et al clearly disclose that the system may be used to test operations at various locations in networks, including optical networks (column 1, lines 10-34).

Also, regarding claim 11, in response to Applicants' assertion on page 13 of their response that Figure 2b of Barnard et al. does not explicitly show a test signal generator, Examiner again notes that although such a generator is not explicitly shown in this figure, they nevertheless clearly disclose generating a test signal by some means "at the transmission site" (column 5, lines 7-11).

Also, regarding claim 37, Examiner respectfully disagrees with Applicants' assertion on page 15 that Barnard et al. do not disclose determining if there is a fault condition in the light path based on a bit error rate of the test signal. On the contrary, Barnard et al. clearly disclose that the bit error rate of the test signal is used to determine whether the system is performing acceptably, and if the bit error rate exceeds a certain maximum, the system determines that the

channel in question has failed and requires adjustment (column 5, lines 49-67; column 6, lines 1-5).

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Y. Leung whose telephone number is 571-272-3023. The examiner can normally be reached on Monday to Friday, 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571-272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christina Y Leung
Christina Y Leung
Patent Examiner
Art Unit 2633